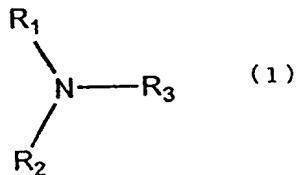


IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A catalyst for producing a rigid polyurethane foam by means of at least one blowing agent selected from the group consisting of 1,1,1,3,3-pentafluoropropane (HFC-245fa), 1,1,1,3,3-pentafluorobutane (HFC-365mfc) and a low boiling point hydrocarbon, which comprises:

(A) an amine compound of the following formula (1):



wherein each of R₁, R₂ and R₃ which are independent of one another, is a C₁₋₂₀ alkyl group, and at least one amine compound selected from the group consisting of triethylenediamine, N,N,N',N'-tetramethyl-1,6-hexanediamine and N,N-dimethylcyclohexylamine; or

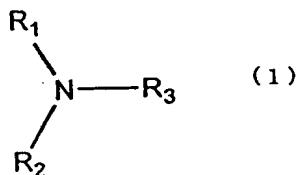
~~(B) an amine compound having an alkyl ether group and/or an aryl ether group in its molecule.~~

Claim 2 (Original): The catalyst for producing a rigid polyurethane foam according to Claim 1, wherein in the formula (1), each of R₁, R₂ and R₃ which are independent of one another, is a methyl group, an ethyl group, a propyl group, a butyl group, a pentyl group, a hexyl group, a heptyl group, an octyl group, a nonyl group, a decyl group, an undecyl group, a dodecyl group, a tridecyl group, a tetradecyl group, a heptadecyl group or a hexadecyl group.

Claim 3 (Original): The catalyst for producing a rigid polyurethane foam according to Claim 1, wherein the amine compound of the formula (1) is at least one amine compound selected from the group consisting of trimethylamine, dimethylethylamine, dimethylpropylamine, dimethylbutylamine, dimethylpentylamine, dimethylhexylamine, dimethylheptylamine, dimethyloctylamine, dimethylnonylamine, dimethyldecylamine, dimethylundecylamine, dimethyldodecylamine, dimethyltridecylamine, dimethyltetradecylamine, dimethylpentadecylamine and dimethylhexadecylamine.

Claim 4 (Original): The catalyst for producing a rigid polyurethane foam according to Claim 1, wherein the composition of the amine compound of the formula (1) and said at least one amine compound selected from the group consisting of triethylenediamine, N,N,N',N'-tetramethyl-1,6-hexanediamine and N,N-dimethylcyclohexylamine, comprises from 10 to 95 wt% of the amine compound of the formula (1) and from 90 to 5 wt% of said at least one amine compound selected from the group consisting of triethylenediamine, N,N,N',N'-tetramethyl-1,6-hexanediamine and N,N-dimethylcyclohexylamine.

Claim 5 (Withdrawn): A catalyst for producing a rigid polyisocyanurate foam by means of at least one blowing agent selected from the group consisting of 1,1,1,3,3-pentafluoropropane (HFC-245fa), 1,1,1,3,3-pentafluorobutane (HFC-365mfc) and a low boiling point hydrocarbon, which comprises an aliphatic amine compound of the following formula (1):



wherein each of R₁, R₂ and R₃ which are independent of one another, is a C₁₋₂₀ alkyl group, and a polyisocyanurate catalyst.

Claim 6 (Withdrawn): The catalyst for producing a rigid polyisocyanurate foam according to Claim 5, wherein in the formula (1), each of R₁, R₂ and R₃ which are independent of one another, is a methyl group, an ethyl group, a propyl group, a butyl group, a pentyl group, a hexyl group, a heptyl group, an octyl group, a nonyl group, a decyl group, an undecyl group, a dodecyl group, a tridecyl group, a tetradecyl group, a heptadecyl group or a hexadecyl group.

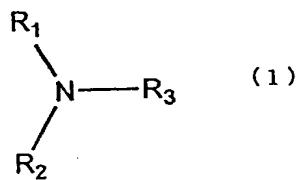
Claim 7 (Withdrawn): The catalyst for producing a rigid polyisocyanurate foam according to Claim 5, wherein the amine compound of the formula (1) is at least one amine compound selected from the group consisting of dimethylethylamine, dimethylpropylamine, dimethylbutylamine, dimethylpentylamine, dimethylhexylamine, dimethylheptylamine, dimethyloctylamine, dimethylnonylamine, dimethyldecylamine, dimethylundecylamine, dimethyldodecylamine, dimethyltridecylamine, dimethyltetradecylamine, dimethylpentadecylamine and dimethylhexadecylamine.

Claim 8 (Withdrawn): The catalyst for producing a rigid polyisocyanurate foam according to Claim 5, wherein the polyisocyanurate catalyst is at least one polyisocyanurate catalyst selected from the group consisting of organic metal type catalysts such as alkali metal salts of carboxylic acids, alkaline earth metal salts of carboxylic acids, metal alcoholates, metal phenolates and metal hydroxides, tertiary amines, tertiary phosphines, onium salt compounds of phosphorus and quaternary ammonium salts.

Claim 9 (Withdrawn): The catalyst for producing a rigid polyisocyanurate foam according to Claim 5, wherein the composition of the aliphatic amine compound of the formula (1) and the polyisocyanurate catalyst, comprises from 10 to 90 wt% of the aliphatic amine compound of the formula (1) and from 90 to 10 wt% of the polyisocyanurate catalyst.

Claim 10 (Withdrawn): A process for producing a rigid polyurethane foam, which comprises reacting a polyol with a polyisocyanate in the presence of an amine catalyst and a blowing agent, wherein the amine catalyst is:

(A) a catalyst composition comprising an amine compound of the following formula (1):



wherein each of R₁, R₂ and R₃ which are independent of one another, is a C₁₋₂₀ alkyl group, and at least one compound selected from the group consisting of triethylenediamine, N,N,N',N'-tetramethyl-1,6-hexanediamine and N,N-dimethylcyclohexylamine; or

(B) a catalyst comprising an amine compound having an alkyl ether group and/or an aryl ether group in its molecule; and the blowing agent is:

at least one blowing agent selected from the group consisting of 1,1,1,3,3-pentafluoropropane (HFC-245fa), 1,1,1,3,3-pentafluorobutane (HFC-365mfc) and a low boiling point hydrocarbon.

Claim 11 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein in the formula (1), each of R₁, R₂ and R₃ which are

independent of one another, is a methyl group, an ethyl group, a propyl group, a butyl group, a pentyl group, a hexyl group, a heptyl group, an octyl group, a nonyl group, a decyl group, an undecyl group, a dodecyl group, a tridecyl group, a tetradecyl group, a heptadecyl group or a hexadecyl group.

Claim 12 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein the amine compound of the formula (1) is at least one amine compound selected from the group consisting of trimethylamine, dimethylethylamine, dimethylpropylamine, dimethylbutylamine, dimethylpentylamine, dimethylhexylamine, dimethylheptylamine, dimethyloctylamine, dimethylnonylamine, dimethyldecylamine, dimethylundecylamine, dimethyldodecylamine, dimethyltridecylamine, dimethyltetradecylamine, dimethylpentadecylamine and dimethylhexadecylamine.

Claim 13 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein the composition of the amine compound of the formula (1) and said at least one amine compound selected from the group consisting of triethylenediamine, N,N,N',N'-tetramethyl-1,6-hexanediamine and N,N-dimethylcyclohexylamine, comprises from 10 to 95 wt% of the amine compound of the formula (1) and from 90 to 5 wt% of said at least one amine compound selected from the group consisting of triethylenediamine, N,N,N',N'-tetramethyl-1,6-hexanediamine and N,N-dimethylcyclohexylamine.

Claim 14 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein the at least one blowing agent comprises said low boiling point hydrocarbon, which is a hydrocarbon having a boiling point of from -30 to 90°C.

Claim 15 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 14, wherein the hydrocarbon having a boiling point of from –30 to 90°C, is at least one hydrocarbon selected from the group consisting of propane, butane, 2-methylpropane, pentane, cyclopentane, 2-methylbutane, 2,2-dimethylpropane, cyclopropane, hexane, 2-methylpentane, 3-methylpentane, 2,2-dimethylbutane, cyclohexane, 2,4-dimethylpropane, 3,3-dimethylpropane and 2,2,3-trimethylbutane.

Claim 16 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein the amine catalyst is used in an amount of from 0.01 to 20 parts by weight per 100 parts by weight of the polyol.

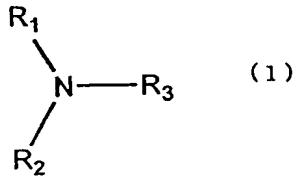
Claim 17 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein a foam stabilizer is used as an auxiliary agent.

Claim 18 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein a ~~cross-linking~~ cross-linking agent and/or a chain extender is used as an auxiliary agent.

Claim 19 (Withdrawn): The process for producing a rigid polyurethane foam according to Claim 10, wherein a flame retardant is used as an auxiliary agent.

Claim 20 (Withdrawn): A process for producing a rigid polyisocyanurate foam, which comprises reacting a polyol with a polyisocyanate in the presence of a catalyst and a

blowing agent, wherein the catalyst is a catalyst composition comprising an aliphatic amine compound of the following formula (1):



wherein each of R₁, R₂ and R₃ which are independent of one another, is a C₁₋₂₀ alkyl group, and a polyisocyanurate catalyst, and the blowing agent is at least one blowing agent selected from the group consisting of 1,1,1,3,3-pentafluoropropane (HFC-245fa), 1,1,1,3,3-pentafluorobutane (HFC-365mfc) and a low boiling point hydrocarbon.

Claim 21 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein in the formula (1), each of R₁, R₂ and R₃ which are independent of one another, is a methyl group, an ethyl group, a propyl group, a butyl group, a pentyl group, a hexyl group, a heptyl group, an octyl group, a nonyl group, a decyl group, an undecyl group, a dodecyl group, a tridecyl group, a tetradecyl group, a heptadecyl group or a hexadecyl group.

Claim 22 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein the aliphatic amine compound of the formula (1) is at least one amine compound selected from the group consisting of dimethylethylamine, dimethylpropylamine, dimethylbutylamine, dimethylpentylamine, dimethylhexylamine, dimethylheptylamine, dimethyloctylamine, dimethylnonylamine, dimethyldecylamine, dimethylundecylamine, dimethyldodecylamine, dimethyltridecylamine, dimethyltetradecylamine, dimethylpentadecylamine and dimethylhexadecylamine.

Claim 23 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein the polyisocyanurate catalyst is at least one polyisocyanurate catalyst selected from the group consisting of organic metal type catalysts such as alkali metal salts of carboxylic acids, alkaline earth metal salts of carboxylic acids, metal alcoholates, metal phenolates and metal hydroxides, tertiary amines, tertiary phosphines, onium salt compounds of phosphorus and quaternary ammonium salts.

Claim 24 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein the composition of the aliphatic amine compound of the formula (1) and the polyisocyanurate catalyst, comprises from 10 to 90 wt% of the aliphatic amine compound of the formula (1) and from 90 to 10 wt% of the polyisocyanurate catalyst.

Claim 25 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein the catalyst composition comprising the aliphatic amine of the formula (1) and the polyisocyanurate catalyst, is used in an amount of from 0.01 to 40 parts by weight per 100 parts by weight of the polyol.

Claim 26 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein a foam stabilizer is used as an auxiliary agent.

Claim 27 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein a cross-linking agent and/or a chain extender is used as an auxiliary agent.

Claim 28 (Withdrawn): The process for producing a rigid polyisocyanurate foam according to Claim 20, wherein a flame retardant is used as an auxiliary agent.

Claim 29 (New): The catalyst for producing a rigid polyurethane foam according to Claim 1, wherein the at least one amine compound comprises triethylenediamine.

Claim 30 (New): The catalyst for producing a rigid polyurethane foam according to Claim 1, wherein the at least one amine compound comprises N,N,N',N'-tetramethyl-1,6-hexanediamine.

Claim 31 (New): The catalyst for producing a rigid polyurethane foam according to Claim 1, wherein the at least one amine compound comprises N,N-dimethylcyclohexylamine.

Claim 32 (New): The catalyst for producing a rigid polyurethane foam according to Claim 1, which additionally comprises at least one other catalyst.

Claim 33 (New): The catalyst for producing a rigid polyurethane foam according to Claim 32, wherein the at least one other catalyst is selected from the group consisting of organic metal catalysts, metal carboxylate catalysts, tertiary amine catalysts other than amine compounds of formula (1) and other than said at least one amine compound, and quaternary ammonium salt catalysts.

DISCUSSION OF THE AMENDMENT

Claim 1 has been amended by deleting alternative (B). Non-elected Claim 10 has been similarly amended. Non-elected Claim 14 has been amended for purposes of clarification. Non-elected Claim 18 has been amended to correct a typographical error.

New Claims 29-33 have been added. Claims 29-31 are supported by Claim 1. Claims 32-33 are supported in the specification at page 33, line 10 through page 35, line 7.

No new matter is believed to have been added by the above amendment. Claims 1-4 and 29-33 are now active in the application; Claims 5-28 stand withdrawn from consideration. Claims 10-19 are subject to rejoinder.